



Chron No.: CTO-0161/0218

MEETING MINUTES

Meeting Subject: MCAS El Toro BRAC Office and Local Redevelopment Authority Coordination Meeting on Landfill Proposed Plan	Meeting Date: October 22, 1998 Meeting Time: 0930 Meeting Place: MCAS El Toro BRAC Office Meeting Notes Prepared By: Tim Latas/Dante Tedaldi
Attendees: See attached Attendance list	
Additional Distribution: Please See the Transmittal Sheet	

Wayne Lee of the MCAS El Toro BRAC office opened the meeting by welcoming all attendees. Especially those from the different agencies from the County, the Bay AREA, and Sacramento. Joseph Joyce, the Base Environmental Coordinator (BEC) then proceeded by reviewing the agenda (see attachment). Glenn Kistner of USEPA emphasized that the meeting needs to wrap-up by 1300 so USEPA personnel could make a return flight to San Francisco. Following these comments, everyone introduced themselves and identified their affiliation.

Mr. Kistner reviewed key issues from 10/19 meeting with the Local Redevelopment Authority (LRA) and regulatory agencies. Mr. Kistner summarized that there were three principal issues that were addressed in the meeting: ability to irrigate and need for a liner; flexibility for modifications such as for utilities; and site access. He expects that more discussion with the LRA will be needed and will revolve around the technical aspects and the legal issues were set aside for the meeting today. In particular, institutional controls will need to address the question is who is responsible for monitoring and enforcing them and who is responsible when something goes wrong. The second issue is a concern from California Integrated Waste Management Board (CIWMB) about the generation of methane gas, and specifically, that installation of gas monitoring would be better sooner rather than later. The key issue is whether the LRA can irrigate the monolithic cover. The LRA would not discount remedies which would allow them to irrigate. The other issues listed previously do not go away. CIWMB initially approved a non-irrigated scenario but wants more monitoring for moisture control/gas generation if an irrigated scenario is used.

Tom Hutteman of USEPA noted that the discussions included the Reuse Plan and the perceived need for a liner. The originally proposed institutional controls stated that no irrigation could occur. So the USEPA looked at the technical reasons for a liner with irrigation to make sure that it was justified as a requirement. USEPA concluded that if current infiltration conditions could be maintained with a monolithic cap, then a liner would not be needed to maintain protectiveness.

Sally Drach of MDB&E noted that the goal of the LRA in the remedy selection process is to understand and ensure that following the implementation of the remedy at Sites 3 and 5 there is an ability to use the sites in accordance with the proposed reuse and be protective of human health and the environment. The LRA is not opposed to the additional examination of the monolithic

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soil cap. The LRA continues to have some concerns, general in nature. The LRA understands that if a monolithic cover was to be installed and irrigated it would be the first of its type in California. However, to the LRA, there appears to be an uncertainty with the Title 27 prescriptive standard and they are not sure what the benchmark is for a landfill cap. Ms. Drach said that it is incumbent upon the LRA and agencies to evaluate the results of the recent work against other alternatives, but that the LRA views alternative remedies as satisfying the reuses.

Peter Janicki of the CIWMB added that there was a lack of a waste characterization study for either of the sites.

Courtney Wiercioch of the LRA stated that the County has reached a milestone in the reuse planning when it issued the Notice of Preparation (NOP) for the Environmental Impact Report (EIR) for reuse master planning. The County Board of Supervisors has adopted a position in the NOP for reuse (indicated poster board, which presented a layout of the reuse master plan). According to this reuse plan, there are some important changes made since the Community Reuse Plan was approved. Site 5 is now designated as a regional park. Site 3 is now designated as an 18-hole championship golf course. These changes occurred to reflect a less intensive use of the area. Ms. Wiercioch said that the LRA noted to their planners to be aware of these landfills during development and have asked designers to look for innovative ways to enable the Marine Corps alternative to work as proposed. Possible uses include a "target" golf course at Site 3 or hardscape such as a baseball diamond or parking lot at Site 5. The public comment period on the NOP ends in November and the EIR is due in midsummer 1999. Ms. Wiercioch anticipates some public comments about contamination on the base, such as the County should seek the maximum remedy (clean closure). The LRA recommended to their Board that they not seek that remedy. The LRA feels that the selected plan supported by the Board is a very good compromise. Objective is to seek positive community reuse of the base.

Mr. Huetteman questioned the roadway alignment around the proposed new features of Sites 3 and 5. Ms. Wiercioch stated that Irvine Boulevard will remain and the design could readily accommodate natural, existing features, such as the wash. The area of Site 3 may be a target golf hole thereby reducing the overall need for irrigation as well as direct access to the waste management area. Mr. Huetteman asked whether the course could include an apparently small section next to Irvine Boulevard. Ms. Wiercioch said that it can be include and the course would include overpasses as well as clubhouses and parking. The LRA is just beginning to discuss the course design with golf course architects. Mr. Janicki asked if there would be trees planted. Ms. Wiercioch replied that trees would be included but no deep-rooted vegetation would be placed on the landfills.

Joseph Joyce and Laura Duchnak stated that the DoN appreciated these efforts of the LRA and inquired about the timing of the design. Ms. Wiercioch did not have a schedule at this time. She also noted that there would be an examination of synthetic turf applications as asked by Mr. Janicki. Design parameters would be developed but the detailed design would not occur until the property was transferred and a developer was brought in.

Andy Piszkin reviewed the technical issues associated with infiltration and gas generation. He provided copies of the recent UNSAT-H modeling. First he discussed the gas emissions modeling that was presented in a recent Technical Memorandum. He apologized for leaving the LRA off of the distribution and Ms. Drach supported the decision to include the LRA and noted that the LRA needs the information to be part of the process. Mr. Piszkin stated that the gas generation from

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the two sites is not an issue because of the types of waste and with about 5 inches of infiltration to the landfills under base case conditions (normal rainfall) no significant methane is present. Additional gas probes are proposed and are adequate to meet ARARs and site conditions. Since the LRA has not had time to review the technical memorandum, Tim Latas clarified that gas generation in the model is based on the cellulose content to a large degree. Mr. Piszkin stated that the modeling was overly conservative and yet the results were still supportive of the existing preferred remedy. Mr. Janicki questioned if there has been enough moisture present in the landfill wastes to enable significant waste degradation to occur. Mr. Piszkin stated that employee interviews revealed that the trenches were open during operations with wastes burned in place and therefore, annual rainfall was directly exposed to the wastes. He noted that the initial rapid and significant degradation of wastes would then have had the opportunity to occur and thus, the current state of waste degradation would be on the long, trailing end of the curve. In addition, Mr. Piszkin indicated that a monolithic cap would allow methane, if provided, to "bleed" through the cover and would not be trapped under a plastic barrier.

Tim Latas noted that there is a methane generation constant in the model. The DoN used a default value in the USEPA model based on a municipal landfill with typical municipal wastes, which contain relatively high moisture and cellulose. This is very conservative. Peter Janicki again suggested that it was possible that there had been insufficient moisture to degrade the wastes to the degree suggested but DoN. He stated that models of this type cannot be refined to greater than 15% precision.

Ms. Drach asked if the benchmarks for evaluation of the results have been assessed. Tim Latas stated that these benchmarks have been identified and all results are considerably below these values. He noted that the perimeter soil gas measurements from the RI were below the methane benchmark by 5 orders of magnitude. The same USEPA gas emission model was run for Site 2 during the RI/FS and at that time and agency comments noted that no gas collection was needed at Site 2. Because Site 2 had higher emission rates then modeled for Site 3 and 5, no gas collection is considered appropriate. Ms. Drach asked for documentation of agency concurrence on these efforts. She stated that different interpretations of correspondence are often possible. Ms. Drach also asked if models are used to predict the effects of irrigation. Mr. Latas indicated that the model only considers the types of wastes and assumes a moisture and cellulose content. These parameters would need to be changed in the gas generation rate constant.

Andy asked if the large safety factors included in this effort were adequate. Bert Palmer of GeoSyntec stated that he thought there was a strong level of uncertainty with the assumptions in the modeling particularly with the default parameter. Mr. Janicki stated that modeling of this type is usually used for sizing landfill gas collection systems and the results are typically very conservative.

Ms. Drach asked how the model is validated, has this been done and what steps have been taken in this area? How does this issue change under non-baseline conditions if the cap is placed and irrigated, for example? What can be expected? How is this non-baseline condition validated? Mr. Janicki noted that his review was based on an assumption of a non-irrigated open space. He stated that the CIWMB would not require modeling (and thus validation), only monitoring. If there is a potential or actual problem then further steps are necessary to address the problem. Mr. Joyce noted that the design of Alternative 3 included measures to directly address this aspect of the system operation.

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Ms. Wiercioch asked if the monitoring showed that additional action is necessary and for example, a golf course hole or two is taken out of operation, what happens? Does the County get compensated for the loss of revenue. Wayne Lee stated that DoN is responsible for fixing the problems, which develop over time if the Marine Corps remedy has been maintained. In terms of establishing liability, that is a lot more complex question. Rex Callaway stated that it is not in the come back clause and may involve tort litigation. Mr. Lee noted that the DoN could look into it. Mr. Huetteman suggested this is an important issue for the attorneys from the different agencies to discuss.

Ms. Wiercioch stated that she would be happy to get together with a smaller group of attorneys to discuss. If she sees a higher likelihood for the possibility of failure, she would factor that into the remedy selection. She thinks the LRA alternative has a higher likelihood of success and thus reduces the transactional issues in the future. Are people comfortable that the gas generation issue is so inconsequential that the synthetic liner is not needed? Ms. Duchnak stated that the BCT has not had time to review the technical memorandums to make a determination. Ms. Drach asked to have the LRA consultant (GeoSyntec) present in any discussions and Mr. Joyce agreed. Mr. Huetteman noted that USEPA has a strong need to be comfortable that the remedy is protective of human health and the environment and will not fail. Ms. Duchnak seconded this point and emphasized that the more complicated the initial remedy is the more difficult it will be to make post ROD changes to the remedy. Ms. Drach feels that that issue requires further discussion. She disputes that the monolithic cover is the best alternative to provide post implementation flexibility.

Mr. Lee noted that all groups wanted a remedy, which would not fail and pointed out the risk for failure had different meanings to the groups. Ms. Wiercioch stated that some non-technical people would want to know what is in the landfill and why the modeling can be trusted. She needs reasons that the non-technical members of the Board can trust. She would like to have an explanation and precedents. Mr. Lee noted that it may be difficult to convince all Board members and thus examples should be provided of the use of the presumptive remedy elsewhere.

Sharron Fair of DTSC asked if there were indeed situations with an irrigated monolithic cap. Mr. Janicki noted that there have not been any that have been approved by the CIWMB. Michael Wochnick of CIWMB added that the monolithic caps in the state are in the desert, isolated from populations, and conditional approvals only have been granted to-date. Ms. Duchnak asked if any monolithic caps have been constructed in areas of high rainfall. Mr. Wochnick said that there are some covers in areas of 10-15" of rainfall and are considered more as pilot tests associated with active landfills. These monolithic caps are operated by county or private operators and will not be transferred. Mark Mispagel, special counsel to the LRA, asked if there are any commercial uses of these sites. Mr. Wochnick replied that the sites are basically part of on-going landfills operations. Ms. Duchnak asked that the BCT get together and consider this in light of the need for a win-win situation. She asked the group to recall that originally the DoN did not want any irrigation and is willing to accept some risk and has asked the LRA to recognize this.

Mr. Joyce asked the group to look for sound ways for the CIWMB and others to support this new approach of irrigating the monolithic cap. Michael Wochnick stated that he would want to know how easily the situation could be fixed if a problem developed. He stated that the Title 27 regulations are based on a bias for non-irrigated use. They would prefer alternatives, which do not include irrigation. He doesn't believe that employee interviews represent hard data. The CIWMB has recommended that some sites be assessed further using intrusive sampling, which

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would verify the assumptions. This has sometimes shown that the sites were smaller and could be consolidated or clean closed. Laura Duchnak noted that the situation surrounding the example he provided of the NTC landfill is not equivalent since that was a 334 transfer and the Port of San Diego is accepting responsibility for the remedy. She added that so much of what happens is dependent upon the timing and who retains the property and liability in the future. Tom Huetteman added that USEPA is not exactly thrilled with the presumptive remedy. It is a cost saving tool and sometimes this costs more because additional land is included which may be clean. At El Toro this standard is being relaxed for irrigation and he stated that there needs to be recognition that there is a diversion from the presumptive remedy. He suggested that the team be open to the need for more data collection as well as a assessment of the existing data.

BREAK-10 minutes

Tayseer Mahmoud of DTSC asked how soon the Navy could validate their model results in the field. Could it be done before the design? Mr. Piszkin suggested that the models are normal industry models and asked if it is typical to verify in the field. Mr. Wochnick added that some monolithic caps are full-scale tests based on conditional approval. Test pads on the other hand are generally done when there is a clay liner that has to meet a certain standard. He noted that monolayers have to meet a performance standard. Liners can be tested using lab and field test pads. These tests take several months. This enables the system of equipment, soils and field conditions to be tested.

Mr. Lee asked that the group reconvene on the detailed technical issues such as test pads so that the agenda could be rejoined.

Mr. Piszkin distributed tables that summarized the results of the UNSAT-H infiltration modeling. This work was undertaken to supplement the HELP infiltration modeling of landfill alternatives as presented in the feasibility studies. His review noted that the base case was about 14 inches of rain with about 9.9 inches during drought. He described the details of the assumptions related to biomass and cap designs. He contrasted the assumptions and features of the previous modeling using HELP with the UNSAT-H modeling. The UNSAT-H accommodates monthly changes in irrigation application rates. In summary, 30 inches of irrigation with the normal rainfall on the preferred remedy was equivalent to normal rainfall (base case) on the uncovered landfill (existing condition). Mr. Piszkin stated that the irrigation rate would be designed and monitored to ensure compliance. If different controls or turf crops were needed, this would be developed in the design. Ms. Drach asked where the irrigation data came from. Mr. Latas said that the data comes from Texas (Agricultural Commission). Mr. Janicki asked if data from El Toro was used. Mr. Piszkin said that data was not available but the values presented are very similar to the values from a Navy golf course in San Diego. Mr. Piszkin stated that compared to existing conditions, Alternative 3 with irrigation would meet the performance equivalency. Mr. Huetteman asked if there was some sense of what the landscaping would look like. Ms. Wiercioch responded that the LRA is in the process of beginning to talk with golf course architects and course operators in the County. Ms. Duchnak suggested that a set of design parameters would help set the cover design standards. Mr. Lee suggested the practical issues of design probably would be best left aside for now but that there are three components that need to be addressed: 1) agencies need to review the model results, 2) institutional controls would offer flexibility of up to 30 inches of irrigation, and 3) execution of a monolithic cap would be in detailed design and not necessarily in a ROD.

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Ms. Drach was not certain how the irrigation standard could be relaxed. She asked what is the standard by which the cover is judged over time? If it is not Title 27, what is it? At what point do you determine that the remedy is operating successfully? Mr. Mahmoud pointed out that the DTSC agreed that 3.71 inches of infiltration was acceptable as shown in the feasibility study. Mr. Callaway stated that the regulations permitted the use of alternative designs if you had equivalent performance. The interpretation of performance is subject to interpretation. Ms. Wiercioch asked if the same alternative, which was not acceptable, if irrigated could now be acceptable. Ms. Duchnak clarified that the DoN has reassessed a basic assumption regarding their acceptable level of liability. Ms. Drach reiterated that the standard be identified and all agencies be comfortable with it. Mr. Wochnick again noted that the prescriptive standard is different than the performance standard of the monolithic cap. For the monolithic cap, one must monitor to assess conformance with the goal that there is no problem. There is only a numeric standard for gas and the condition that there be no water quality degradation. It's a measure of the front end comfort level. One cannot be sure of either a prescriptive cap or monolithic cap. Mr. Palmer noted that they did not necessarily suggest the use of UNSAT-H, they suggested the use of an unsaturated model.

Mr. Joyce asked if there was any other comments and suggested that Mr. Callaway discuss post-ROD changes. Mr. Callaway discussed how to handle changes in land use after the remedy is in place. He distributed a policy protocol for DoD, EPA and CalEPA on how to handle changes to land use which was developed by the California Military Environmental Coordination Committee (CMECC) (see attached). The document is for operating facilities, but offers a good starting point for this base. He has been working on a proposal modeled on this and it currently under review by headquarters. He suggested a meeting in the 2nd or 3rd week of November to discuss the issue in detail. Tom Huetteman added that there are ways to make small changes whereby agency approvals are not needed. He emphasized that there is a need to develop a process by which changes could be identified, reviewed and expeditiously processed. Mr. Joyce also presented the CIWMB Local Enforcement Agency (LEA) advisory on post-closure land uses, which provides additional input on the process for modifications to the closed landfill in California. This was provided because many issues being discussed are related to postclosure uses and how these postclosure uses are implemented are captured in this document.

Ms. Drach asked how the DoN could resolve what she sees a conflict with Title 27? The LRA is being told by the LEA that Title 27 will apply. She doesn't understand why the Orange County Board of Supervisors has to apparently comply with all of Title 27 if the DoN does not have to during implementation. Mr. Callaway noted that the DoN position is that Title 27 does not apply since the landfill was closed prior to 1984. He added that the DoN has to perform the ARARs evaluation and discerns the difference between applicable or relevant and appropriate under CERCLA. She asked that the solution be consistent from start to finish and asked to have the LEA (Orange County Department of Health) be brought into the discussions. Mr. Lee asked the attorneys to discuss with the regulatory agencies and DoN counsel.

Mr. Joyce asked if there were any other comments and then suggested that Mr. Kistner address institutional controls. Mr. Kistner spoke about post ROD responsibilities as they relate to institutional controls. USEPA would like to have a good idea of who the responsible agencies are before they sign the ROD. He wants the team to get out of the "...it's a design issue..." mode. He wants to know who is responsible for the institutional controls and who has jurisdiction over different aspects of the execution. He noted that USEPA feels that Title 27 is not applicable but may be relevant and appropriate (consistent with the DoN position stated by Mr. Callaway).

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Mr. Joyce asked the state representatives from the RWQCB, CIWMB, and DTSC to explain their roles and responsibilities in pre-ROD, post-ROD, and monitoring and compliance involvement. Mr. Mahmoud noted that the CIWMB was included at his request several years back but not in recent times. He believes that although the CIWMB is not a signatory to the FFA, they should be included in all meetings. Ms. Duchnak stated that the DoN is interested in having all the relevant regulatory agencies involved and would not be happy to find at the end of the process that someone critical had been left out.

Mr. Joyce asked to have clarification if the CIWMB relinquishes authority to the LEA when the base is transferred? Mr. Janicki stated that the LEA will be responsible for implementing site inspections and reviews for the CIWMB after transfer; and the LEA is the Orange County Health Care Agency. Thus, in the future, the LEA will be the oversight agency on the landfills. Mr. Wochnick explained that state statutes allow them to delegate authority to the local authority; that would be the LEA. There would be some CIWMB oversight to ensure that the LEA is doing a good job. Ms. Drach stated that the LRA did not necessarily care who has enforcement authority. Mr. Mahmoud noted that EPA, DTSC, the LEA and the RWQCB would be provided with all monitoring data from the executed remedy for up to 30 years.

Ms. Fair noted that the State is seeking to develop a land use covenant, which would give the state authority over enforcement of institutional controls. Mr. Joyce asked how her proposal would be different than the relationship between the CIWMB and the LEA. She stated that under her draft proposal, the state could take enforcement actions against future owners. Permitting by others (county) are identified by reference in DTSC's proposal.

Mr. Huetteman noted that there are site specific exceptions that can be made and are protective. People outside the CERCLA process should understand that certain actions, different than which they may prefer, could be acceptable.

Mr. Joyce asked if there were any more comments or clarifications that the state agencies can offer. Mr. Joyce asked then asked Mr. Piszkin to address the schedule. Mr. Piszkin provided proposed schedules for reviews and actions at the landfill sites and reviewed the material (see attached pages). Mr. Kistner noted that the LRA did not want progress on Sites 2 and 17 to lock in decisions for Sites 3 and 5. Ms. Drach stated that she did not want the LRA's failure to take a position on Sites 2 and 17 to set a precedent. She added that they would make these positions clear within comments on the draft ROD for Sites 2 and 17. Mr. Huetteman concurred with that assessment. Mr. Lee stated that if the LRA felt the need to make such comments, then they should go forward with that plan. He asked that the agencies recall that there are some similarities between sites and there are some very clear distinctions also, such as land use, surrounding land use and transferee.

Mr. Huetteman suggested that some data useful to the decision making on Site 3 and 5 might be gathered during the execution of post ROD work on Sites 2 and 17. He also noted that there might be a need to have another public comment period if the remedy selected is changed significantly from the Proposed Plan. Mr. Joyce stated that there will need to have more discussion about any changes and whether they are considered significant changes.

Mr. Joyce provided a summary and noted that several future agenda topics would be post closure requirements, regulatory responsibilities. Specifically there will be legal meetings, technical meetings, and postclosure issue meetings. He reiterated that Mr. Palmer will be asked to join in BCT technical meetings. He also indicated that copies of letters of agency approval of the gas

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emissions at Site 2 would be provided to the LRA. He looks forward to working cooperatively with all the parties present and is confident that with all the expertise present that resolution can be achieved. Mr. Lee noted the complexity of the issues and added that in some areas individual concerns are not easily satisfied. He asked the team to narrow the gaps and continue to make progress.

MCAS El Toro
LRA Coordination Meeting
Comments on Landfill Proposed Plan

October 22, 1998 9:30-1:00 PM
MCAS El Toro
BRAC, Building #899
Conference Room

AGENDA

Introduction/Agenda Review

Joseph Joyce
Marine Corps/Navy, BRAC
Environmental Coordinator

Debrief of EPA/DTSC/LRA 10/19 Mtg.

LRA/Agencies

Overview of LRA Major Concerns

LRA Staff/EPA/DTSC

Update of LRA Planning Process

LRA Staff

DoN discussion of LRA concerns

Andy Piszkin / Rex Callaway
Southwest Division

- Technical
 - Infiltration/Irrigation Modeling
 - Landfill Gas
- CERCLA/BRAC
- Post ROD Changes

EPA, State & Local Agencies

- Pre ROD Responsibilities
- Post ROD Responsibilities
- Monitoring and Compliance

Glenn Kistner
Tayseer Mahmoud
Patricia Hannon
Peter Janicki

EPA
DTSC
RWQCB
IWMB

Schedule Sites 2&17
 Sites 3&5

Andy Piszkin

SWDIV

Meeting Summary

Joseph Joyce

EL TORO

LRA Coordination Meeting

10/22/98 9:30AM

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LEA Advisory #51, July 22, 1998
Publication #231-98-011

Disposal Site Postclosure Land Use

To All Local Enforcement Agencies:

The purpose of this advisory is to provide guidance and information to the Solid Waste Local Enforcement Agencies (LEA) on oversight of disposal site postclosure land use pursuant to Title 27, California Code of Regulations (27 CCR), section 21190. Specific topics addressed include regulatory authority, activities subject to the regulatory tiers, site boundary issues, proposal review, local approvals, technical assistance, and site inspections.

Background

Control of postclosure land use at solid waste disposal sites represents a major part of the LEA's responsibility to protect public health and safety and the environment. The California Integrated Waste Management Board (CIWMB) established regulations addressing postclosure land use activities in 1989 based on documented problems associated with poorly regulated development on disposal sites (Final Statement of Reasons, Disposal Site Standards for Closure and Postclosure, Page III-7.8 129-139). In many cases, the CIWMB and LEA are still dealing with the consequences of poor past postclosure land use practices.

Although there are many examples of poor postclosure land use practices, significant recent advances in the land use development and environmental control of disposal sites are evident. There are an increasing number of projects that have been successfully constructed and maintained in compliance with current minimum standards. Attachment 1 is a list of selected examples of postclosure land use projects developed in accordance with current minimum standards. Upon request, more specific information concerning these and other projects can be provided by staff of the CIWMB's Remediation, Closure, and Technical Services Branch.

Postclosure land use development can be a substantial benefit to local communities. Attractive and useful postclosure land uses can help incorporate a closed site into the surrounding community. Postclosure land use development can also provide a potential source of financial resources to remediate environmental problems at sites where the responsible parties are unable to finance remediation on their own.

Regulatory Authority Over Postclosure Land Use Activities

The specific minimum standard for postclosure land use at disposal sites is contained in 27 CCR 21190 (attachment 2). This standard is applicable to new postclosure activities that may jeopardize the integrity of previously closed disposal sites or pose a potential threat to public health and safety or the environment (27 CCR 21100(b)(2)).

CIWMB closure and postclosure maintenance plan requirements apply to all solid waste landfills required to be permitted that were operating on or after January 1, 1988. Closure and postclosure

maintenance plans under these requirements require a description of proposed postclosure land use per 27 CCR 21190. If the postclosure land use is proposed to significantly change after approval of the final closure and postclosure maintenance plans (final plans), revision of the final plans is required pursuant to 27 CCR 21190. The revision for significant postclosure land use change must specifically address compliance with 27 CCR 21190 and be approved by the LEA, Regional Water Quality Control Board (RWQCB), and CIWMB.

CIWMB closure and postclosure maintenance plan requirements of 27 CCR Chapter 4, Subchapter 4 are not applicable for sites that ceased operating prior to January 1, 1988 (27 CCR 21770(b)). If a significant change in postclosure land use is proposed for these sites, a postclosure land use proposal should be submitted to the LEA to address compliance with 27 CCR 21190. The LEA is required to approve the proposed postclosure land use if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste (27 CCR 21190(c)).

Many disposal sites have pre-existing postclosure land use activities (in place prior to August 18, 1989). Review and approval of these land use activities under 27 CCR 21190 is not required. However, LEAs should note that there is significant flexibility in applying minimum standards for closure and postclosure to pre-existing land use activities. This flexibility is contained in 27 CCR 21100(d), which gives the LEA authority to apply any closure or postclosure standard to these sites as necessary to address a threat to public health and safety or the environment. Similar flexibility is contained in 27 CCR 21100(f) which applies to non-municipal solid waste landfill (MSWLF) units (e.g., wood waste landfills).

Activities Subject to the Regulatory Tiers

Public Resources Code (PRC) Sections 44001 and 44002 require operators of solid waste facilities to obtain solid waste facility permits. Therefore, activities subject to the regulatory tiers, located within the boundaries of closed or closing disposal sites (e.g., composting facilities), must obtain the applicable solid waste permit before these activities can commence unless specifically exempted or excluded. These activities are also subject to the postclosure land use standards of 27 CCR 21190. Activities subject to tiered permits must either be already incorporated into the approved final plans, or be added as revisions to the approved final plans for closed or closing sites operating on or after January 1, 1988. For sites that ceased operating prior to January 1, 1988, final plans are not required and the proposed activities would be submitted as a proposal pursuant to 27 CCR 21190.

If an activity changes beyond the approved land use change (e.g., new or expanded layout, higher waste throughput, new permit tier activity) a new postclosure land use proposal or revision to the final plans should be submitted.

Site Boundary Issues

"Disposal site" or "site" includes the place, location, tract of land, area, or premises in use, intended to be used, or which has been used for the landfill disposal of solid wastes (PRC Section 40122). In practice, this definition means that any property located outside the parcel containing the solid waste is not subject to the postclosure land use requirements of 27 CCR 21190, even if the outside property is within 1,000 feet of the waste footprint (27 CCR 21190(c)). This can be problematic for the CIWMB and LEA because parcel boundaries can be split from the disposal site, allowing development close to the waste footprint without triggering postclosure land use controls and approvals.

Local building codes and ordinances can provide enforceable buffer zones controlling land use development adjacent to disposal sites (e.g., Los Angeles County building codes). Another way for the LEA to influence the control of postclosure land use development adjacent to disposal site parcels is to participate as early as possible in the local planning process when rezoning and building permits come up for issuance. It is also important to note that where the Department of Toxic Substances Control (DTSC) has jurisdiction over postclosure land use pursuant to California Health and Safety Code Section 25221 (i.e., hazardous waste sites), it has broad authority over adjacent land use activities on property outside the disposal area.

Review of Postclosure Land Use Proposals

Suggested guidelines for review of all postclosure land use proposals, revisions to final plans, or portions of closure and postclosure maintenance plans, subject to 27 CCR 21190, are as follows:

1. Project Description (27 CCR 21190(a-c))

Check description of postclosure land use activity and implementation schedule. Is the detail sufficient to address 27 CCR 21190(a-c)? Review description of land use change to ensure consistency with any required tier permit application and permit covering the activity.

Check if the project involves waste excavation and relocation and/or consolidation. If yes, a thorough description of this activity should be provided including project health and safety measures and waste characterization, handling, processing, and placement. This activity may also fall under DTSC jurisdiction if the waste is hazardous (e.g., burn dump ash with residue exceeding hazardous levels for metals). Guidance for complete removal of waste and waste residuals ("clean closure") is contained in LEA Advisory No. 16. For the specific case of burn dump remediation, a separate LEA Advisory will be issued.

2. CEQA

Does the proposal include verification of compliance with the California Environmental Quality Act (CEQA) (e.g., Notice of Determination)? CEQA is required for the discretionary approval of a project by the LEA, which would include most postclosure land use changes. In most cases the local planning department is lead agency for ensuring compliance with CEQA requirements for these projects. If so, the LEA is a responsible agency and should coordinate with the lead agency early in the process.

3. Project Layout (27 CCR 21190(a-c))

Check site maps and grading plans to ensure that the specific limits of the land use change are clearly delineated with respect to the closed disposal site and all existing environmental monitoring and control systems. Check specifically for delineation of areas on waste that will be irrigated or capped by relatively impermeable materials such as asphalt concrete. These activities can result in increased landfill gas generation and migration. Environmental monitoring and control systems to be evaluated include site security, erosion control, drainage, leachate collection and removal, and landfill gas monitoring and control. Research site files to determine if there are documented problems with

landfill gas, leachate, or drainage that must be specifically addressed in the project.

All construction plans should be signed and stamped by an appropriately licensed professional such as a person registered as a civil engineer in the State of California [27 CCR 21780(a)].

4. Environmental Monitoring and Control Systems (27 CCR 21190(a), (d))

Check facility layout with respect to existing environmental monitoring and control systems. Is the land use change compatible with the existing environmental monitoring and control systems? Will these systems need to be expanded, decommissioned, or reconstructed? If so, the proposal should include revised design plans, specifications, construction schedule, and revisions to the postclosure monitoring and maintenance plan. If required, it is important that on-site maintenance personnel implement monitoring and operations plans for landfill gas, in addition to ensuring that methane alarm systems are maintained.

5. Structures (27 CCR 21190(c-g))

Does the proposal include enclosed structures on waste or within 1,000 feet of the waste footprint within the property boundary? If yes, approval by the LEA is required (27 CCR 21190(c)). If yes, check to see if construction design standards of 27 CCR 21190(e) and (g) are met in plans and specifications (flexible utility connections, floor slab barrier, vent layer, vent piping, automatic methane sensors with alarm system, periodic methane monitoring program of structure). Check for evaluation of slope stability to ensure the integrity of landfill slopes under both static and dynamic conditions (27 CCR 21145).

Check that a construction quality assurance (CQA) plan has been submitted. A CQA plan should be included to ensure that construction is completed in accordance with plans and specifications. The CQA plan should also include submittal and certification of as-built plans and specifications upon completion of construction.

Equivalent alternative designs can be proposed but must be supported for the intended function. For example, it is very important that any alternative proposed to the standard geomembrane barrier layer have documentation (e.g., manufacturer specifications) showing equivalent low permeability to landfill gas. In addition, exemptions are allowed from the construction standards if the applicant demonstrates on a site-specific basis that there is no potential for adverse impacts on public health and safety and the environment from landfill gas migration into structures.

6. Pilings (27 CCR 21190(e) (6-7))

Construction of deep foundations with pilings in waste is a special case normally requiring a licensed geotechnical engineer. Detailed plans and specifications are necessary to ensure that penetrations of final cover are adequately sealed and that appropriate corrosion resistance is provided. Check to ensure depth of piles does not penetrate any bottom liner unless approved by the RWQCB.

7. Modification or Replacement of Low Permeability Layer (27 CCR 21190(d))

Is the site required to have a low permeability layer in the final cover? For sites that ceased accepting waste prior to January 1, 1988, this determination is frequently made by the RWQCB, but the LEA has authority to require a low permeability layer if necessary to protect public health and safety and the environment (e.g., landfill gas control). If a low permeability layer is required, does the proposal include modification or replacement of the low permeability layer of the final cover? If so, approval by the LEA and RWQCB is required (27 CCR 21190(d)), and grading plans, specifications, and CQA plans should also be included.

8. Land Use on Final Cover (27 CCR 21190(a-c))

Is the postclosure land use change within areas underlain by final cover or waste? If so, the land use should be evaluated with respect to potential settlement and damage to the final cover. The evaluation should include an estimation of the potential settlement as a result of the activity and whether or not the settlement is tolerable for the integrity of the final cover and the activity proposed. If there is the potential for significant settlement the methods for monitoring and repair should be included.

Is the addition of a soil cover needed to protect public health and safety (e.g., to prevent public contact with waste)? If so, plans and specifications for the additional cover should be included.

Local (City, County, or Regional) Project Approvals

Reviewers of postclosure land use proposals should also note that separate local permits or approvals (e.g., building, grading, conditional use, air district) may be required for the project depending on local codes and ordinances. Conflicts can arise due to the overlapping reviews and approvals of these agencies. Therefore, LEAs should contact the other applicable local agencies as early in the development of the postclosure land use project as possible to help coordinate the reviews and approvals.

Technical Assistance

Staff from the CIWMB Remediation, Closure, and Technical Services Branch is available to LEAs, other agencies, and project applicants for technical assistance on disposal site postclosure land use. Licensed engineers from the branch are also available to the LEA if requested to assist in the review and approval of postclosure construction projects.

Site Inspections

A major aspect of disposal site inspections for postclosure land use is to ensure that there is no change or expansion in land use activities without prior comment or approval as required. For example, LEAs have been faced with unauthorized construction activities on disposal sites where a significant landfill gas hazard is suspected, and no control systems have been planned. This situation would constitute a violation of 27 CCR 21190 and would warrant prompt enforcement action by the LEA to address the problem. LEAs should also inspect approved projects under construction to ensure that the approved plans and specifications are being addressed.

If the LEA observes a potential threat to public health and safety or the environment at a site with an existing or approved new postclosure land use activity a violation or area of concern should be issued. Examples of such observations would include, but not be limited to:

- Exposure of the public to waste.
- Excessive differential settlement in areas over waste (damage to buildings, utilities, parking lots, and roads; ponding on waste; surface cracking with the potential for release of gas into structures).
- Detection of landfill gas within structures or appurtenant utilities exceeding 1.25 % methane by volume in air.
- Non-operational methane alarm systems.
- Failure to monitor and control landfill gas as required.

A violation or area of concern should be issued based on the inspector's determination of threat to public health and safety or the environment. Detection of methane greater than 1.25 % in enclosed structures should be cited

as a violation of 27 CCR 21190, 20919, and for municipal solid waste landfills, 27 CCR 20919.5.

The owner's promptness in correcting violations would bear on what level of enforcement action is appropriate. LEA staff should contact their Remediation, Closure, and Technical Services Branch staff liaison if specific examples of enforcement orders on closed sites are desired, or if assistance in site inspections is desired.

Tracking of Postclosure Land Use Changes

To control potential postclosure land use changes and justify a reduction in inspection frequencies a tracking system is recommended. Such a tracking system would typically involve a computer database system by which other local approval agencies (e.g., planning, building departments) flag parcels for referral to LEAs when a permit or approval is requested. This would allow the LEA to be involved early in the development process so that later conflicts are avoided. In some cases deed restrictions on disposal site properties have been applied, although that process would normally require the involvement of county counsel and would need to occur before property is conveyed to another party.

Further questions or technical assistance concerning postclosure land use and the topics discussed may be directed to Remediation, Closure, and Technical Services Branch liaisons.

Sincerely,

<Picture>

Dorothy Rice, Deputy Director
Permitting and Enforcement Division

Attachments: Attachment 1: Examples of Disposal Site Postclosure Land Projects

Attachment 2: Disposal Site Postclosure Land Use Regulation

<Picture: Return to Advisory Home page>

<Picture: CIWMB logo>California Integrated Waste Management Board
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Last updated: August 3, 1998
<http://www.ciwmb.ca.gov/pe/advisory/51/51.htm>

LEA Advisory # 51 Attachment 2:

Disposal Site Postclosure Land Use Regulation

Title 27, Division 2, Subdivision 1, Chapter 3, Subchapter 5, Article 2

§21190. CIWMB Postclosure Land Use

(a) Proposed postclosure land uses shall be designed and maintained to:

(1) protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems;

(2) prevent public contact with waste, landfill gas and leachate; and

(3) prevent landfill gas explosions.

(b) The site design shall consider one or more proposed uses of the site toward which the operator will direct its efforts, or shall show development as open space, graded to harmonize with the setting and landscaped with native shrubbery or low maintenance ground cover.

(c) All proposed postclosure land uses, other than non-irrigated open space, on sites implementing closure or on closed sites shall be submitted to the EA, RWQCB, local air district and local land use agency. The EA shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste.

(d) Construction on the site shall maintain the integrity of the final cover, drainage and erosion control systems, and gas monitoring and control systems. The owner or operator shall demonstrate to the satisfaction of the EA that the activities will not pose a threat to public health and safety and the environment. Any proposed modification or replacement of the low permeability layer of the final cover shall begin upon approval by the EA and the RWQCB.

(e) Construction of structural improvements on top of landfilled areas during the postclosure period shall meet the following conditions:

(1) automatic methane gas sensors, designed to trigger an audible alarm when methane concentrations are detected, shall be installed in all buildings;

(2) enclosed basement construction is prohibited;

(3) buildings shall be constructed to mitigate the effects of gas accumulation, which may include an active gas collection or passive vent systems;

(4) buildings and utilities shall be constructed to mitigate the effects of differential settlement. All utility connections shall be designed with flexible connections and utility collars;

(5) utilities shall not be installed in or below any low permeability layer of final cover;

(6) pilings shall not be installed in or through any bottom liner unless approved by the RWQCB;

(7) if pilings are installed in or through the low permeability layer of final cover, then the low permeability layer must be replaced or repaired; and

(8) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with §20933 of Article 6, of Subchapter 4 of this Chapter.

(f) The EA may require that an additional soil layer or building pad be placed on the final cover prior to construction to protect the integrity and function of the various layers of final cover.

(g) All on-site construction within 1,000 feet of the boundary of any disposal area shall be designed and constructed in accordance with the following, or in accordance with an equivalent design which will prevent gas migration into the building, unless an exemption has been issued.

(1) a geomembrane or equivalent system with low permeability to landfill gas shall be installed between the concrete floor slab of the building and subgrade;

(2) a permeable layer of open graded material of clean aggregate with a minimum thickness of 12 inches shall be installed between the geomembrane and the subgrade or slab;

(3) a geotextile filter shall be utilized to prevent the introduction of fines into the permeable layer;

(4) perforated venting pipes shall be installed within the permeable layer and shall be designed to operate without clogging;

(5) the venting pipe shall be constructed with the ability to be connected to an induced draft exhaust system;

(6) automatic methane gas sensors shall be installed within the permeable gas layer, and inside the building to trigger an audible alarm when methane gas concentrations are detected; and

(7) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with Article 6, of Subchapter 4 of this Chapter (§20920 et seq.).

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<Picture: CIWMB logo>California Integrated Waste Management Board
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Last updated: August 3, 1998
<http://www.ciwmb.ca.gov/pe/advisory/51/51.htm>

**Tetra Tech EM Inc.**

591 Camino De La Reina, Suite 640 ♦ San Diego, CA 92108 ♦ (619) 718-9676 ♦ FAX (619) 718-9698

Date: February 5, 1998

To: California Military Environmental Coordination Committee (CMECC)
CMECC Cleanup Committee
CMECC Site Cleanup Performance Action Team

From: Jennifer Brainerd *Jennifer*

Subject: Final "Institutional Control Protocol at Open Bases"

The following are attached for your review:

- Final "Institutional Control Protocol at Open Bases" cover letter
- Final "Institutional Control Protocol at Open Bases"
- Distribution list

Copies will also be available at the next Cleanup Committee meeting (March 10) and CMECC meeting (to be determined). If you need a clean (un-faxed) copy mailed to you, please contact me at (619) 718-9676.

Post-it® Fax Note	7671	Date	2/5	# of pages	70
To	Rev. Callaway	From	Stephanie Anderson		
Co./Dept.	SWDIV	Co.	Tetra Tech		
Phone #		Phone #	(619) 718-9676		
Fax #	532-1663	Fax #			

CALIFORNIA MILITARY ENVIRONMENTAL COORDINATION COMMITTEE

January 5, 1998


Remedial Project Managers:

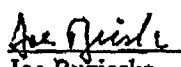
The California Military Environmental Coordination Committee (CMECC) has developed the enclosed Institutional Control Protocol for application at active military installations. This protocol is a consensus document that is intended to aid federal and state remedial project managers when incorporating institutional controls into CERCLA response actions.


Institutional controls are non-engineering mechanisms, particularly legal measures, designed to limit activities or access at a particular site. They are intended to protect the public and environment from residual hazardous substances during and after remediation, particularly where the cleanup levels or containment remedies are not compatible with unrestricted land uses. The CMECC Protocol discusses how to incorporate institutional controls into decision documents, implementation mechanisms such as base master plans and memoranda of agreement, processes for changing institutional controls, and verification mechanisms.

If you have general questions regarding the document, please contact Ms. Shelia Lowe at (562)590-4856. Technical questions may be referred to members of the CMECC Cleanup Process Action Team members listed in the acknowledgments section.

Respectfully,


Stan Phillippe
Chief, Office of
Military Facilities
California Environmental
Protection Agency


Joe Ruzicska
Commander Naval Base
San Diego
United States Navy


Dan Opalski
Federal Facilities Cleanup
Branch
United States Environmental
Protection Agency

Enclosure

INSTITUTIONAL CONTROL PROTOCOL AT OPEN BASES

Prepared by
California Military Environmental Coordination Committee (CMECC)
Site Cleanup Performance Action Team

The purpose of this protocol is to provide guidance to project teams on the implementation of institutional controls at open military bases. This guidance represents a consensus approach developed by CMECC for application at open military bases in California.

Institutional controls are non-engineering mechanisms, particularly legal measures, designed to limit activities or access at a particular site. They are a type of CERCLA response action addressed in a Remedial Action Plan (RAP), Record of Decision (ROD) or other decision document. Typically, institutional controls are selected to prevent unacceptable risks to human health and the environment associated with residual contamination remaining at a site (e.g., land use restrictions or groundwater use restrictions), or they are selected to maintain the effectiveness of the remedy (e.g., restrictions to maintain the integrity of a landfill cap). They are designed to guarantee that the public and the environment are fully protected from residual hazardous substances during and after remediation, particularly where the cleanup levels or containment remedies are not compatible with unrestricted land uses.

At open DoD installations, institutional controls need to be implemented through the process for planning and approving changes to land use and related construction projects at the DoD installation. Typically, the Base Master Plan (BMP) is the best place to record the institutional controls so as to ensure their implementation by the DoD installation. The BMP establishes for the DoD installation land uses and similar "zoning-like" requirements and is utilized by the DoD installation for evaluating land use decisions and for project planning. However, before the BMP is selected as the document for recording the institutional controls, the DoD installation and regulatory agencies need to verify that the existing process at a DoD installation for land use planning and project approval does in fact include reference to the BMP and that there are adequate checks and balances within the process to ensure that there will be adherence to the institutional controls. Depending on the existing process at a DoD installation, it may be determined that a document other than the BMP is better suited for recording and implementing the institutional controls or that more than one planning document at the DoD installation needs to include the institutional controls.

Another option for implementing institutional controls at the DoD installation is through the establishment of a Memorandum of Agreement (MOA) between the DoD installation and the appropriate regulatory agencies. Such an MOA can be used instead of the BMP when it is determined that the BMP is not the appropriate vehicle for implementing the institutional controls, or it can be used as a supplement to the BMP or other planning document used to record the institutional controls.

The following institutional control protocol should be implemented at open DoD Installations:

1. Whenever institutional controls are determined to be necessary to protect human health or the environment, or to ensure the integrity of the remedy, the institutional controls should be included as a response action or part of a response action in a RAP or ROD document. In addition, a closeout or final RAP or ROD should be prepared whenever a removal action or interim remedial action that did not achieve unrestricted land use has been completed.
2. The RAP or ROD should include a description of the type of institutional control required and provide the reason for the restriction. The RAP or ROD should also identify specific conduct that is prohibited by the institutional control, including those specific land use changes that are prohibited as well as activities that are prohibited in order to preserve the effectiveness of the remedy.
3. As a component of implementing the institutional controls, the DoD installation and regulatory agencies should evaluate the use of permanent markers at the site of the institutional controls as another mechanism for ensuring adherence to the institutional controls. Such markers might include concrete landmarks containing a plaque describing the conduct prohibited by the institutional controls. Where DoD and the regulatory agencies agree to the use of permanent markers, the RAP or ROD should include permanent markers as part of the institutional controls. Additionally, the RAP or ROD may state that the use of such markers will be evaluated during the remedial design step.
4. Before finalizing the RAP or ROD where institutional controls will be required (preferably during the Feasibility Study), the DoD installation and regulatory agencies need to verify the effectiveness of the BMP for implementing the institutional controls at the DoD installation. Agreement needs to be reached as to whether the BMP, by itself or with another document(s), or some other documentation mechanism (e.g., an MOA) will be used to implement the institutional controls at the DoD installation.
5. The specific institutional control language that will be added to the BMP or other implementing document should include a description of the institutional control which clearly identifies the specific conduct that is prohibited by the institutional control, and it should include all of the requirements specified in the RAP or ROD for implementing the institutional control. Relevant hazardous substance site overlays and references to applicable Installation Restoration Program documents (e.g., RI/FS, ROD, etc.) should also be included in the BMP or other implementing document. The boundaries of the sites at the DoD installation subject to institutional controls should also be surveyed and recorded on appropriate base maps. Whenever feasible, the specific institutional control language that will be incorporated into the BMP or other implementing document should be included in the RAP or ROD. If not included in the RAP or ROD, the proposed institutional control language should be submitted to the regulatory agencies for approval prior to inclusion in the BMP or other implementing document. The RAP or ROD

should also include a requirement that the DoD installation record the institutional control in the BMP or other implementing document and provide the regulatory agencies with proof of such recordation within 6 months (or as otherwise agreed to) from signature of the ROD or RAP.

6. Changes to Land Use Post ROD or RAP:

6.a. Land Use Change Notification/Request for Concurrence: The RAP or ROD should include provisions addressing the following procedures and requirements:

(i) The DoD installation should provide timely notification to the regulatory agencies whenever the DoD installation anticipates any major change in land use (defined below in paragraph 6.c) for the site subject to institutional controls.

(ii) The DoD installation should notify the regulatory agencies as soon as a major land use change is anticipated in order to allow sufficient time for regulatory review and amendments to remedy selection decision documents (i.e., RODs or RAPs). Such notification should be made to the regulatory agencies at least 60 days prior to a major change in land use and should include:

- 1) an evaluation of whether the anticipated land use change will pose unacceptable risks to human health and the environment or negatively impact the effectiveness of the remedy;
- 2) an evaluation of the need for any additional remedial action resulting from the anticipated land use changes; and
- 3) a proposal for any necessary changes in the selected remedial action.

(iii) The regulatory agencies' review should address whether the anticipated land use change necessitates a modification to the selected remedy. The regulators should advise the DoD installation whether a ROD or RAP amendment or an Explanation of Significant Difference (ESD) document is required. The regulators should provide a written response within 30 days of the DoD installation's notification and request for concurrence, taking into account the need to minimize any adverse impact upon military operations.

6.b. The ROD/RAP may include dispute resolution procedures or cross-reference to existing FFA/FFSRA dispute resolution procedures to address non-concurrence by the regulatory agencies on the DoD installation's Land Use Change Notice/Request for Concurrence discussed above in paragraph 6.a.

6.c. The following are considered major changes in land use:

(i) A change in land use classification that is inconsistent with the exposure assumptions in the risk assessment that was the basis for the institutional controls (either human health or ecological risk assessments). For example, the human health risk assessment assumed

that a site is in "caretaker" status with a worker visiting the site once a week for 2 hours, and the proposed change in land use would have a worker at the site for 8 hours a day, 5 days a week. Any change from industrial, commercial or recreational land use to a more sensitive land use such as housing, schools, hospitals and/or day-care centers is a major land use change. Similarly, any change from industrial or commercial land use to recreational land use is also a major land use change. Further, any change in land use that is prohibited in order to protect the environment is also a major land use change. For example, an area with residual contamination may be prohibited from being used for the creation of wetland habitat and the land use change would result in creation of a wetland.

(ii) Any action that may disrupt the effectiveness of the remedial action. For example, excavation at a landfill, groundwater pumping that may impact a groundwater pump and treat system, or a construction project that may impact ecological habitat protected by the remedy.

(iii) Any other action that might alter or negate the need for the institutional control. For example, any plan to actively remediate a site subject to institutional controls in order to allow for unrestricted use.

7. The ROD or RAP should provide that the DoD installation will verify maintenance of the institutional controls through the CERCLA 5-year review process, and report "minor" land use changes (i.e., land use changes other than those defined above as "major" land use changes) to the regulatory agencies via the CERCLA 5-year review.

8. The ROD or RAP should provide that the DoD installation will notify regulatory agencies when any installation property subject to institutional controls is expected to be transferred, including federal to federal transfers. In the event a DoD installation subject to institutional control requirements is transferred, the institutional controls should be reviewed and incorporated as part of the FOSL and FOST procedures for leasing and transferring property at closing DoD installations. Any institutional controls in place at the time the property is transferred or leased should be set forth as restrictions on the property.

CALIFORNIA MILITARY ENVIRONMENTAL COORDINATION COMMITTEE

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Capt. Eric Bee, United States Air Force

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Perry Sobel, United States Navy

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Final "Institutional Control Protocol at Open Bases"

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Cleanup Committee

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Rod Whitten	AFBCA	(415) 977-8885	(415) 977-8900	rwhitten@afcecb1.brooks.af.mil
Judith Winchell	EPA	(415) 744-2468	(415) 744-1916	winchell.judith@epamail.epa.gov

Site Cleanup Performance Action Team

Tony Mei	US Army	See Cleanup Committee		
Tracie Billington	US Air Force	See Cleanup Committee		
Capt. Eric Bee	US Air Force	(415) 977-8848	(415) 977-8900	abee@jag.af.mil
Rex Callaway	US Navy (SWDIV)	(619) 532-1662	(619) 532-1663	rcallaway@efdswest.navfac.navy.mil
Perry Sobel	US Navy (SWDIV)	(619) 532-2312	(619) 532-4060	phsobel@efdswest.navfac.navy.mil
Thelma Estrada	US EPA	(415) 744-1386	(415) 744-1041	estrada.thelma@epamail.epa.gov
Tom Huetteman	US EPA	See CMECC		
Shelia Lowe	DTSC	(562) 590-5916	(562) 590-4932	slowe@earthlink.net
Marguerite Mosnier	DTSC	(916) 323-3419	(916) 323-5542	N/A
John Scandura	DTSC	See Cleanup Committee		

Schedule
Response to LRA Public Comments
MCAS El Toro's Proposed Plan for Landfill Sites 3 & 5

10/22/98	Landfill Meeting: MCAS El Toro, Southwest Division (SWDIV), USEPA, DTSC, RWQCB, CIWMB, and LRA.
10/23 – 11/04	Complete response to comments incorporating information gathered in 10/22 landfill meeting with agencies and LRA.
11/05 – 11/19	Two (2) week <u>internal review</u> of response to LRA comments by MCAS El Toro and SWDIV.
11/20 – 11/30	Incorporate internal review comments.
12/01 – 12/14	Two (2) week DoN HQ review of response to LRA comments.
12/15 – 12/22	Incorporate DoN HQ comments.
12/23	Provide LRA and regulatory agencies MCAS El Toro's response to LRA comments.

EL TORO ENVIRONMENTAL PROGRAM

Estimated Major Milestones

Inactive Landfill Sites

[illegible]

fn: LF98OA.TG1, 10-21-98, Proposed Schedules

*FFA Deliverable

Milestone  Summary 

BECHTEL NATIONAL INC.

CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N-68711-92-D-4670

Document Control No.: CTO-0161/0218

File Code: 0208

TO: Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Mr. Richard Selby, Code 02R.RS
Building 127, Room 112
1220 Pacific Highway
San Diego, CA 92132-5190

DATE: December 1, 1998

CTO #: 161

LOCATION: MCAS El Toro

FROM:

D. J. Tedaldi, Ph.D., P.E., Project Manager

DESCRIPTION: Meeting Minutes – Landfill Proposed Plan - DTD October 22, 1998

TYPE: _____ Contract Deliverable _____ CTO Deliverable X Other
 (Cost) (Technical)

VERSION: _____ REVISION #: _____

ADMIN RECORD: Yes X No Category Confidential
(PM to Identify)

SCHEDULED DELIVERY DATE: 12/1/98 ACTUAL DELIVERY DATE: 12/1/98

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C. Wiercioch, County of Orange (1C/1E)

O = Original Transmittal Sheet
C = Copy Transmittal Sheet
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Date/Time Received _____